to 201° in 1850. The effect of the new inequality was, it will be seen, to diminish the apparent inequality due to the ellipticity of the Earth during the period 1770–1850, the diminution being zero at the first epoch, and attaining its maximum of 2″·2 between 1840 and 1850.

A more definite statement of the support which the observations give to the inequality of longitude cannot be expressed without a more continuous comparison of Hansen's tables with observations than now exists.

On the Spectra of Comets b and c, 1877. By Lord Lindsay.

Already, on April 11, the spectrum of Winnecke's Comet, (*b* 1877) was seen to consist of three bright lines. Under a very low dispersive power these seemed to be connected by the very narrow continuous spectrum of the nucleus; but on subsequently applying a higher power it was obvious that, although the lines were much widened when the image of the nucleus fell on the slit, still the spectrum was broken up into three lines separated by wide dark intervals.

Measures were obtained with a Browning single prism spectroscope, on April 18, by Copeland and G. Lohse: the resulting wave-lengths in millionths of a millimeter are

556·0 Very faint line.

516·0 Bright line abruptly terminated on the side next the red, but gradually fading away towards the violet.

472·2 Faint line, somewhat sharply bounded towards the red.

On May 5 the same instrument gave wave-lengths 558·0, 508·6, 467·9; the lines being much the same as before.

The following night was very clear, and by using a very low eye-piece the lines were found to be visible, even in a Grubb spectroscope with a large compound prism. The least refrangible of the three lines was now found to be separated into at least three very faint lines, *see figure*. A series of measures gave the wave-lengths as follows:—

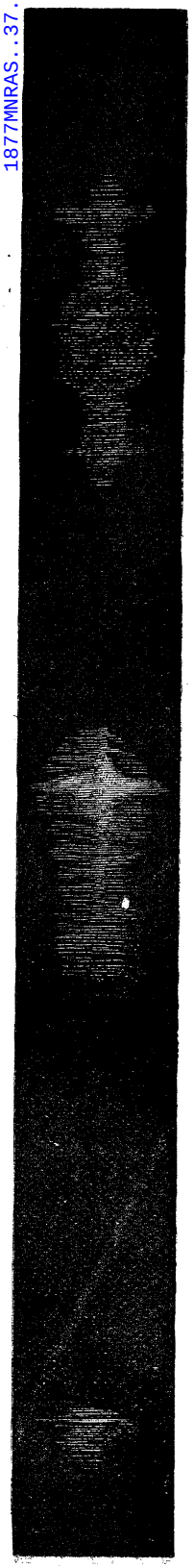
569·6 Very faint line.
559·3 } Very faint band.
550·0 }
543·2 Very faint line.
} These form parts of one band.

517·5 }
498·6 } Limits of brightest line.

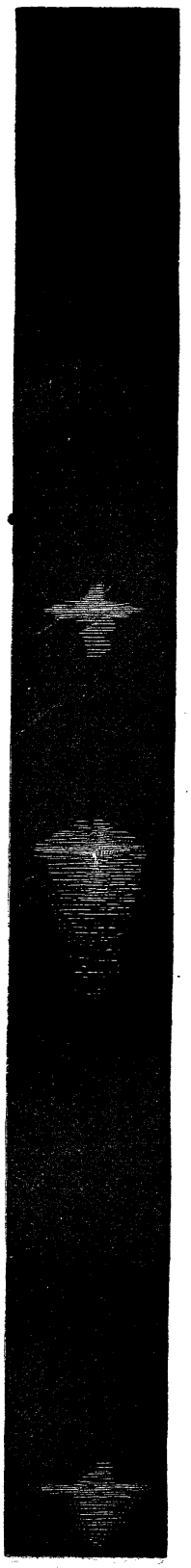
513·4 Brightest part of brightest line.

510·7 Centre of light of brightest line.

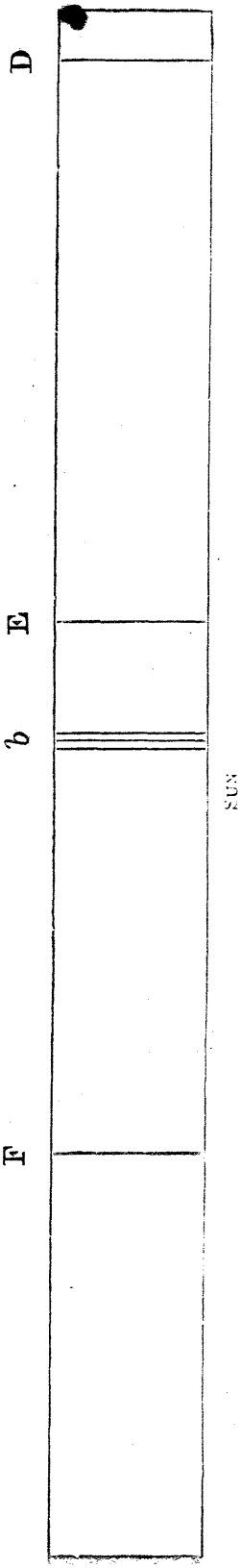
470·5 Brightest part of faintest line.



COMET *b* (WINNECKE), 1877, MAY 6.



COMET *c* (BORELLY), 1877, MAY 6.



The spectrum of this comet much resembles that of Comet II. 1868, as figured by Dr. Huggins in the *Phil. Trans.*

The spectrum of Comet *c* was first successfully measured on May 5: it too consisted of three bright lines, but none of them coincide with those of the other comet. The results are

m.m.m.		
467·6	Faintest line;	brightness = 2.
507·9	Brightest line;	,, = 5.
528·2	,, ,,	,, = 3.

The last line is very close to E of the Solar Spectrum. There we have to deal with a comet closely allied to Brorsen's Comet of 1868 and Comet I. 1871.

The measures were all made with a spider's line, or a steel cone, in either case feebly illuminated in an otherwise perfectly dark field. The steel cone is probably the best, as it gives a broader line and requires less illumination.

Dunecht Observatory,
1877, May 8.

On two "Flats" on the Moon's Limb, observed March 23, 1877.

By Dr. Ralph Copeland.

(*Communicated by Lord Lindsay.*)

At $11^h\ 50^m$ G.M.T. on March 23, 1877, while preparing to observe the reappearance of κ *Geminorum*, I noticed two remarkable "flats" on the Moon's limb. The position angles of their centres were found to be 264° 28′ and 272° 30′; their lengths being 1′ 39″·1 and 1′ 18″·2 respectively. These depressions coincided sensibly with a spider's line throughout their entire length. Assuming the lowest points to have been exactly on the Moon's limb, the above measures give the following results:—

Depressions of March 23, 1877.

	1st Depression.	2nd Depression.
Length in arc of Moon's limb	5° 46′	4° 31′
Apparent depth	1″·24	0″·78
,, ,, in toises	1125	703
Selenocentric Latitude	−14° 25′	− 6° 1′
,, Longitude	+87 18	+86 41

For the sake of comparison, it may be mentioned that the height of *Pico* is 1,062 toises according to Beer and Mädler.

It is highly probable that these indentations are identical with two of those seen by the Rev. H. Cooper Key on September 6, 1863. The second of them was again seen by Mr. Birt on November 3 and 4, 1864, and still later on November 12, 1875.